<u>Ch 2, 3, 4, &amp; 5</u>	<u>Ch 2, 3, 4, &amp; 5</u>
Complete the tablePresentRemoveReinforcerImage: Colspan="2">Image: Colspan="2">Image: Colspan="2">Complete the tableAversiveImage: Colspan="2">Image: Colspan="2">Complete the tableAversiveImage: Colspan="2">Image: Colspan="2">Complete the tableAversiveImage: Colspan="2">Image: Colspan="2">Complete the tableAversiveImage: Colspan="2">Image: Colspan="2">Image: Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2"ReinforcerImage: Colspan="2">Image: Colspan="2"AversiveImage: Colspan="2">Colspan="2"ConditionImage: Colspan="2">Image: Colspan="2"	Diagram a performance management example of: -Reinforcement -Escape -Punishment -Penalty
Ch 2, 3, 4, & 5Complete the tableTraditionalPOBPositive reinforcerPositive reinforcementNegative reinforcerNegative reinforcerNegative reinforcementNegative reinforcement	<u>Ch 2, 3, 4, &amp; 5</u> What's the common confusion between positive and negative reinforcement?
<u>Ch 2, 3, 4, &amp; 5</u> Diagram a Skinner box example of: -Reinforcement -Escape -Punishment -Penalty	<u>Ch 2, 3, 4, &amp; 5</u> According to the toothpaste theory, what is wrong with talking about expressing things?
<u>Ch 2, 3, 4, &amp; 5</u> Diagram an everyday example of: -Reinforcement -Escape -Punishment -Penalty	

## <u>Ch 2, 3, 4, & 5</u>

## <u>Ch 2, 3, 4, & 5</u>

Diagram a performance management example of: Reinforcement No approval  $\rightarrow$  say "please"  $\rightarrow$  approval Escape Aversive look  $\rightarrow$  say "please"  $\rightarrow$  no aversive look Punishment No scolding  $\rightarrow$  say "gimme"  $\rightarrow$  scolding Penalty Toy  $\rightarrow$  say "gimme"  $\rightarrow$  no toy

## <u>Ch 2, 3, 4, & 5</u>

Confusion: negative reinforcement will decrease behavior and positive reinforcement will increase behavior.

Actual: *positive* and *negative* refer to the *addition* (presentation) or *subtraction* (removal) of the outcome stimulus.

It does NOT refer to the *effect* that the outcome has

## <u>Ch 2, 3, 4, & 5</u>

- Beware of the verb *to express*.
- *Expressing* implies that there is bottled up emotion waiting to ooze out in the form of behavior.
- It will lead you away from the contingencies controlling the behavior of concern.

Complete the table

	Present	Remove
Reinforcer	Reinforcement	Penalty
Aversive condition	Punishment	Escape

## <u>Ch 2, 3, 4, & 5</u>

Complete the table

Traditional	POB
Positive reinforcer	Reinforcer
Positive	Reinforcement
reinforcement	
Negative reinforcer	Aversive condition
Negative	Escape
reinforcement	

## <u>Ch 2, 3, 4, & 5</u>

Skinner box example of: Reinforcement No water  $\rightarrow$  press lever  $\rightarrow$  water Escape Shock  $\rightarrow$  press lever  $\rightarrow$  no shock Punishment No shock  $\rightarrow$  press lever  $\rightarrow$  shock Penalty Food  $\rightarrow$  press lever  $\rightarrow$  no food

## <u>Ch 2, 3, 4, & 5</u>

Everyday example of: Reinforcement No friend's voice  $\rightarrow$  answer phone  $\rightarrow$  friend's voice Escape Aversive alarm  $\rightarrow$  hit snooze  $\rightarrow$  No aversive alarm Punishment No telemarketer  $\rightarrow$  answer phone  $\rightarrow$  telemarketer Penalty Juice  $\rightarrow$  spill juice  $\rightarrow$  no juice

<u>Ch 6</u>	<u>Ch 6</u>
Penalty versus extinction.	Penalty versus extinction.
Diagram an example from the Skinner box.	Compare & contrast.
<u>Ch 6</u>	<u>Ch 6</u>
Penalty versus extinction. Extinct	ion of escape vs. not presenting the aversive
	before condition.
Diagram an example from everyday life.	What's the common confusion?
<u>Ch 6</u>	<u>Ch 6</u>
Penalty versus extinction. Extinct	ion of escape vs. not presenting the aversive
Diagram a performance management example.	before condition.
	What's the difference?
Ch 6	<u>Ch 6</u>
<u>Ch 6</u>	Ch 6 Procedure Process/Results
Ch 6       Penalty versus extinction.   Extin	Procedure Process/Results
Penalty versus extinction. Extin What's the common confusion?	Procedure     Process/Results       ction
Penalty versus extinction. Extin	Procedure     Process/Results       ction
Penalty versus extinction. Extin What's the common confusion? Resp	Procedure     Process/Results       ction
Penalty versus extinction. Extin What's the common confusion? Resp	Procedure     Process/Results       ction

## Similarities:

-Both result in no reinforcer -Both decrease behavior

## **Differences:**

-In penalty, a separate reinforcer from the one maintaining the behavior is removed.
-In extinction, the SAME reinforcer that is maintaining the behavior is WITHHELD (response has no effect)

## <u>Ch 6</u>

Confusion: People think not presenting the aversive before condition is extinction of escape.

## <u>Ch 6</u>

-In extinction, the response still occurs, but no longer produces the same outcome (has no effect).

-Extinction of escape involves KEEPING the aversive stimulus in place after the response.

-The aversive before condition is the motivating condition. Without that, the response will not occur and therefore cannot be extinguished.

Ch 6

Maintaining reinforcement contingency No water  $\rightarrow$  press lever  $\rightarrow$  water Penalty contingency Food  $\rightarrow$  press lever  $\rightarrow$  no food

## EXTINCTION

Maintaining reinforcement contingency No water  $\rightarrow$  press lever  $\rightarrow$  water Extinction contingency No water  $\rightarrow$  press lever  $\rightarrow$  no water

## PENALTY

Maintaining reinforcement contingency No attention → tell dirty joke → attention Penalty contingency Cute girl → tell dirty joke → no cute girl

#### **EXTINCTION**

Maintaining reinforcement contingency No attention → tell dirty joke → attention Extinction contingency No attention → tell dirty joke → no attention

## PENALTY

Maintaining reinforcement contingency No attention  $\rightarrow$  walk in office  $\rightarrow$  attention Penalty contingency Tokens  $\rightarrow$  walk in office  $\rightarrow$  fewer tokens

#### **EXTINCTION**

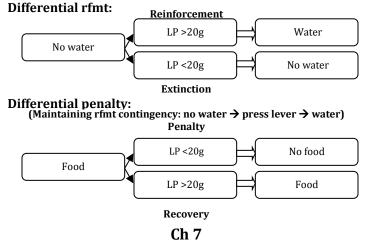
Maintaining reinforcement contingency No attention → walk in office → attention Extinction contingency No attention → walk in office → no attention

## <u>Ch 6</u>

Confusion: People often offer a penalty contingency as an example of extinction.

	<u>un u</u>	
	Procedure	Process/Results
Extinction	Stop giving	Response
	reinforcer	frequency
		decreases
Response	Loss of a	Rate may
cost	reinforcer	decrease
	currently	rapidly
	possessed	
Time-out	Removal of	Rate may
	access to a	decrease
	reinforcer	rapidly

<u>Ch 7</u>	<u>Ch 7</u>
Differential reinforcement vs. plain-vanilla reinforcement.	Differential reinforcement procedure vs. differential punishment procedure.
Compare & contrast.	Illustrate the differences using examples from the Skinner box.
<u>Ch 7</u>	<u>Ch 7</u>
Differential reinforcement vs. plain-vanilla reinforcement.	Differential reinforcement procedure vs. differential punishment procedure.
Illustrate the differences using examples from the Skinner box.	What's the common confusion?
<u>Ch 7</u>	
Differential escape vs. plain-vanilla escape.	
Compare & contrast.	
<u>Ch 7</u>	
Differential escape vs. plain-vanilla escape.	
Illustrate the differences using examples from the Skinner box.	



Confusion:

-People forget that there needs to be a separate reinforcement contingency maintaining the response if a penalty contingency is going to suppress that bx above or below a specific value.

-The usual error is to flip the outcomes of the diff. rfmt procedure and believe that they have demonstrated an example of diff. penalty.

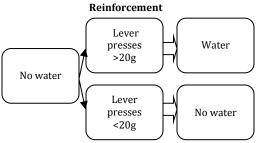
# Similarities:

-Both result in an increase in responding

## **Differences:**

-Differential reinforcement includes a reinforcement AND extinction procedure, thus dividing the response class into 2 sets of responses. -Plain-vanilla reinforcement does not divide the response class, but reinforces all responses that fall into that specific response class.

## **Differential reinforcement:**



Extinction

# Plain-vanilla reinforcement:

No water  $\rightarrow$  press lever (any force)  $\rightarrow$  water

## <u>Ch 7</u>

## Similarities:

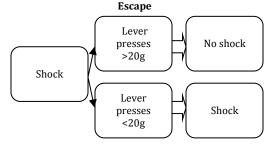
-Both result in an increase in responding

## **Differences:**

-Differential escape includes an escape AND extinction procedure, thus dividing the response class into 2 sets of responses.

-Plain-vanilla escape does not divide the response class, but reinforces all responses that fall into that specific response class.

## Differential escape:

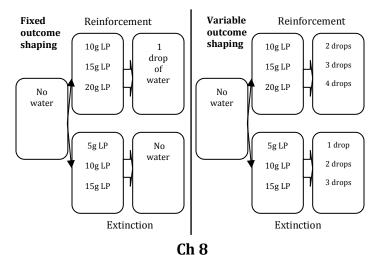


#### Extinction

## Plain-vanilla escape:

Shock  $\rightarrow$  press lever (any force)  $\rightarrow$  no shock

<u>Ch 8</u>	<u>Ch 8</u>
The differential reinforcement procedure vs. the procedure of shaping with reinforcement.	Variable outcome shaping vs. fixed outcome shaping.
Compare and contrast.	Illustrate the differences between these 2 procedures using a pair of examples from the Skinner box.
<u>Ch 8</u>	<u>Ch 8</u>
The differential reinforcement procedure vs. the procedure of shaping with reinforcement. Illustrate this relationship using a pair of examples	Complete this table           Fixed-         Variable-           outcome         outcome           # of outcome         sizes
from the Skinner box.	Sizes       Regression to       earlier levels       Usual source       of shaping
	or shaping
<u>Ch 8</u> Shaping with reinforcement vs. shaping with punishment. Give contrasting Skinner box examples using force as the response dimension.	
<u>Ch 8</u>	
Shaping with reinforcement vs. shaping with punishment.	
Compare & contrast.	



4 la 1 a 4 a la la

.

Complete this table		
	Fixed-	Variable-
	outcome	outcome
# of outcome	One	Many
sizes		
<b>Regression to</b>	No reinforcers	Weaker
earlier levels		reinforcers
Usual source	Performance	Nature
of shaping	manager	

#### Similarities:

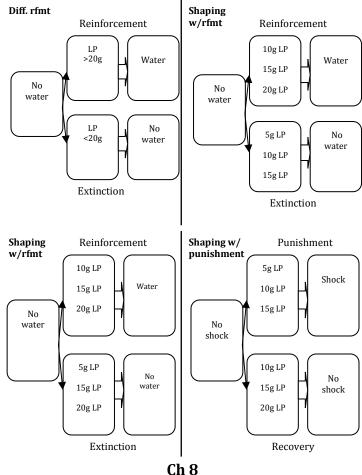
-Both include concurrent rfmt & extinction contingencies. -The results of both are that a response will increase at some value(s) along one dimension and decrease at some value(s) along another dimension.

## Differences:

-In diff. rfmt, there is only one distinction made along relevant response dimension.

-In shaping, there are several distinctions made. -In diff. rfmt, both responses must occur regularly at the beginning of the procedure.

-In shaping, only the initial response must occur regularly at the beginning of the procedure.



## Similarities:

-Both have same terminal response (e.g., 20g LP)

## **Differences:**

-Shaping w/reinforcement reinforces ONLY those responses that more closely approximate the terminal response.

-Shaping w/punishment punishes ALL responses EXCEPT those that more closely approximate the terminal response.

<u>Ch 9</u>	<u>Ch 9</u>
Define learning & performance.	Explain the experiment that illustrates the MO's effect on <b>learning</b> .
	What were the independent and dependent variables?
<u>Ch 9</u>	<u>Ch 9</u>
Explain the experiment that illustrates the MO's effect on <b>learning</b> .	Explain the experiment that illustrates the MO's effect on <b>learning</b> .
How were the 2 groups of rats divided?	What were the results of the experiment?
<u>Ch 9</u>	<u>Ch 9</u>
<u>CII 9</u>	<u>CII 9</u>
Explain the experiment that illustrates the MO's effect on <b>learning</b> .	Explain the experiment that illustrates the MO's effect on <b>learning</b> .
Describe the procedure used in the experiment.	What is the significance of the results of this experiment with respect to MOs?
<u>Ch 9</u>	<u>Ch 9</u>
Explain the experiment that illustrates the MO's effect on <b>learning</b> .	Explain the experiment that illustrates the MO's effect on <b>performance</b> .
Explain the experiment that illustrates the MO's	Explain the experiment that illustrates the MO's
Explain the experiment that illustrates the MO's effect on <b>learning</b> .	Explain the experiment that illustrates the MO's effect on <b>performance</b> .
Explain the experiment that illustrates the MO's effect on <b>learning</b> .	Explain the experiment that illustrates the MO's effect on <b>performance</b> .

#### <u>Ch 9</u>

#### <u>Ch 9</u>

**Independent variable:** amount of time that the rats were deprived on MONDAY.

**Dependent variable:** the latency of their response on TUESDAY.

**Learning:** is a change in behavior as a function of its consequences. If a response produces a reinforcer, then the next time there is an opportunity for that response to occur, it will occur with a shorter latency (or more frequently for a free-operant response), typically with greater force, greater accuracy, and/or more precise stimulus control (i.e., more correctly). More or less, the opposite is true if the response produces an aversive condition.

**Performance:** is the occurrence of behavior. Each time the behaver makes the response he is performing. So learning affects the performance of the response, i.e., the latency, force, etc. The learning that occurs now (e.g, with this incidence of reinforcement) affects your performance later.

#### <u>Ch 9</u>

The rats that were deprived for 24 hours on Monday demonstrated a shorter latency for their lever press on Tuesday than did the rats that were deprived for 6 hours.

#### <u>Ch 9</u>

One group was 24-hour water deprived on Monday.

The other group was 6-hour water deprived on Monday.

#### <u>Ch 9</u>

These results illustrate the MO's effect on learning.

Because the lever press had never been reinforced before the IV (deprivation level) was implemented, we can be confident that increasing the level of deprivation can increase the amount of learning obtained during a single exposure to the contingency.

#### <u>Ch 9</u>

**Monday:** the 2 groups were deprived for 24 hours and 6 hours, respectively. The rats' lever press behavior was reinforced only once.

**Tuesday:** Both groups were deprived for 24 hours, and the rats' lever press was again reinforced only once. Latency of their response was measured.

#### <u>Ch 9</u>

One group was 24-hour water deprived on Tuesday.

The other group was 6-hour water deprived on Tuesday.

#### <u>Ch 9</u>

Only one lever press was used in order to eliminate and confounding variables such as extra learning opportunities and/or extinction.

<u>Ch 9</u>	<u>Ch 9</u>
Explain the experiment that illustrates the MO's effect on <b>performance</b> .	Explain the experiment that illustrates the MO's effect on <b>performance</b> .
Describe the procedure used in the experiment.	What is the significance of the results of this experiment with respect to MOs?
<u>Ch 9</u>	<u>Ch 9</u>
Explain the experiment that illustrates the MO's effect on <b>performance</b> . Why was only one lever press used?	What does Michael (1982) say is the MO's effects on <b>learning</b> ?
<u>Ch 9</u>	<u>Ch 9</u>
Explain the experiment that illustrates the MO's effect on <b>performance</b> . What were the independent and dependent variables?	What does Michael (1982) say is the MO's effects on <b>performance</b> ?
<u>Ch 9</u>	
<u>Ch 9</u> Explain the experiment that illustrates the MO's effect on <b>performance</b> .	
Explain the experiment that illustrates the MO's	
Explain the experiment that illustrates the MO's effect on <b>performance</b> .	

## <u>Ch 9</u>

#### <u>Ch 9</u>

These results illustrate the MO's effect on **performance**.

Because the IV (deprivation level) was modified *after* the rats had been exposed to the contingency, we can be confident that increasing the level of deprivation will increase the quality of that performance.

### <u>Ch 9</u>

Michael (1982) says:

MOs serve to increase the *reinforcing effectiveness* of a stimulus, event, or condition.

**Monday:** the 2 groups were deprived for 24 hours. The rats' lever press behavior was reinforced only once.

**Tuesday:** the 2 groups were deprived for 24 hours and 6 hours, respectively, and the rats' lever press was again reinforced only once. Latency of their response was measured.

### <u>Ch 9</u>

Only one lever press was used in order to eliminate and confounding variables such as extra learning opportunities and/or extinction.

## <u>Ch 9</u>

Michael (1982) says:

MOs serve to *increase the frequency of the type of behavior consequated* by a stimulus, event, or condition. **Independent variable:** amount of time that the rats were deprived on TUESDAY.

Ch 9

**Dependent variable:** the latency of their response on TUESDAY.

#### <u>Ch 9</u>

The rats that were deprived for 24 hours on Tuesday demonstrated a shorter latency for their lever press than did the rats that were deprived for 6 hours.

<u>Ch 11</u>	<u>Ch 11</u>
Extinction of a previously reinforced response vs. removing the value of learned reinforcers and aversive conditions by stopping the pairing procedure. What's the common confusion?	A common confusion is that "Rudolph learns to press the lever, so water is a learned reinforcer. Right?" Where is it that students are failing to discriminate when they compare the concepts of a reinforcement contingency and a learned reinforcer?
<u>Ch 11</u>	<u>Ch 11</u>
Extinction of a previously reinforced response vs. removing the value of learned reinforcers and aversive conditions by stopping the pairing procedure.	The motivating operation for a learned reinforcer. What is the common confusion?
Compare & contrast.	
<u>Ch 11</u>	<u>Ch 11</u>
Extinction of a previously reinforced response vs. removing the value of learned reinforcers and aversive conditions by stopping the pairing procedure.	The motivating operation for a learned reinforcer. What is the correct assumption?
Illustrate the differences between these 2 procedures with a pair of examples from the Skinner box.	
<u>Ch 11</u>	<u>Ch 11</u>
Recovery of a previously punished response vs.	The motivating operation for a learned reinforcer.
removing the value of learned aversive conditions by stopping the pairing procedure.	Is it possible to satiate on learned reinforcers?
Illustrate the differences between these 2 procedures with a pair of examples from the Skinner box.	

## <u>Ch 11</u>

#### <u>Ch 11</u>

They are identifying a pairing, but they are failing to discriminate between a pairing of a learned reinforcer & an unlearned reinforcer (2 stimuli) and a response & a reinforcing outcome.

The response is learned.

The reinforcer is unlearned.

## <u>Ch 11</u>

People erroneously assume that a motivating operation performed on the *learned reinforcer* is sufficient to affect learning and performance.

## <u>Ch 11</u>

Only MOs performed on the *unlearned reinforcer* paired with the learned reinforcer will affect learning and performance.

#### Similarities:

-Both involve breaking a type of relationship between two events.

#### **Differences:**

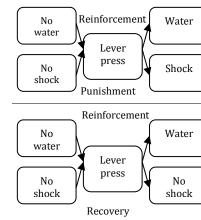
-In extinction, the relationship between a RESPONSE & a REINFORCER is broken.
-In removing the value of a learned reinforcer, the relationship between a NEUTRAL STIMULUS and an UNLEANRED REINFORCER (or already established learned reinforcer) is broken.

#### **ORIGINAL REINFORCEMENT CONTINGENCY:**

No water  $\rightarrow$  lever press  $\rightarrow$  water **EXTINCTION:** No water  $\rightarrow$  lever press  $\rightarrow$  no water

#### PAIRING

Dipper click  $\rightarrow$  water No dipper click  $\rightarrow$  no water **UN-PAIRING** Dipper click  $\rightarrow$  no water No dipper click  $\rightarrow$  no water



#### PAIRING

Buzz  $\rightarrow$  shock No buzz  $\rightarrow$  no shock **UN-PAIRING** Buzz  $\rightarrow$  no shock No buzz  $\rightarrow$  no shock

## <u>Ch 11</u>

No, it is NOT possible to satiate on a learned reinforcer.

Satiation can only occur with the unlearned reinforcers that the learned reinforcers are paired with. People often think that removing the value of a learned reinforcer is an example of extinction.

<u>Ch 11</u>	<u>Ch 11</u>
The motivating operation for a learned reinforcer.	Hedonic and instrumental reinforcers.
Give an example of a reinforcement contingency in which a learned reinforcer is used.	How does the finger from a passing stranger illustrate the concept of a hedonic aversive condition?
Discuss why an MO performed on this learned reinforcer would not affect learning and performance.	
<u>Ch 11</u>	
Hedonic and instrumental reinforcers.	
Describe the Zimmerman & Hanford experiment.	
<u>Ch 11</u>	
Hedonic & instrumental reinforcers.	
How does the Zimmerman & Hanford experiment relate to hedonic learned reinforcers.	
<u>Ch 11</u>	
Hedonic and instrumental reinforcers.	
How does a smile from a passing stranger illustrate the concept of a hedonic learned reinforcer?	

## <u>Ch 11</u>

Having a stranger flip the bird after I've smiled at them is a hedonic aversive condition because it will not lead to backup aversive outcomes.

This will punish my smiling to strangers even though their rudeness will not result in any other aversive outcomes.

#### <u>Ch 11</u>

No click  $\rightarrow$  lever press  $\rightarrow$  click MO: water deprived (not click deprived)

MOs act upon the relative difference between the before & after conditions. The rat can be deprived of the click for weeks and the reinforcing effectiveness of the click would not increase.

Depriving him of **water** does increase the relative difference between the before & after conditions.

They occasionally non-contingently paired neutral stimuli (click, sight of feeder, termination of key & house light) with food.

They then shaped a key-peck response with the non-food stimuli.

In other words, the formerly neutral stimuli became learned reinforcers and were capable of being used to reinforce & maintain behavior.

## <u>Ch 11</u>

Hedonic reinforcers are reinforcers that do not lead to backup reinforcers.

The non-food stimuli in the Z&H study acquired a reinforcing value as a reinforcer that would be classified as hedonic. This is b/c the non-food stimuli maintained the response even though the pigeon never received food for pecking the key.

## <u>Ch 11</u>

The smile from a passing stranger is a hedonic learned reinforcer because it reinforces our bx even though by itself, it does not lead to backup reinforcers.

The stranger's smiling will increase my smiling to other passing strangers even though that smile will not result in any other reinforcers.

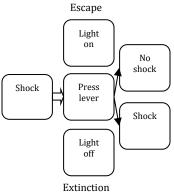
<u>Ch 12</u>	<u>Ch 12</u>		
Discrimination training based on reinforcement vs. discrimination training based on escape. Compare & contrast. <u>Ch 12</u> Discrimination training based on reinforcement vs.	Before       S <sup>D</sup> When does it          occur?          Effects          Makes after          condition more          reinforcing?          Increase          likelihood of          reinforcement?          Discriminative stimulus (S <sup>D</sup> ) vs. the before		
discrimination training based on escape. Illustrate this relationship using a pair of examples from the Skinner box.	Provide an example of discriminated escape from the Skinner box and describe the differences between the before condition and the S <sup>D</sup> .		
<u>Ch 12</u>	<u>Ch 12</u>		
Discrimination training based on reinforcement vs. discrimination training based on punishment Compare & contrast.			
<u>Ch 12</u>	<u>Ch 12</u>		
Discrimination training based on reinforcement vs. discrimination training based on punishment.	A discriminated vs. an undiscriminated contingency.		
Illustrate this relationship using a pair of examples from the Skinner box.	Compare & contrast.		

Ch	12

Complete the table.		
	Before	SD
When does it	Before	Before
occur?		
Effects	Increases bx	Increases bx
Makes after	YES	NO
condition more		
reinforcing?		
Increase	NO	YES
likelihood of		
reinforcement?		

#### Similarities:

-Shock & light are both on before the LP. -Both increase LPing **Differences:** -Only the presence of the shock makes the after condition (no shock) more reinforcing. -Only the presence of the light increases the likelihood of reinforcement.





Antecedent stimuli is too broad a term to effectively describe the various stimuli present before a response.

These stimuli serve different functions.

Therefore, it is more efficient to refer to them as "before condition" and "discriminative stimuli."

## Similarities:

-They both contain a "before-response-outcome" contingency within them.

## **Differences:**

-Undiscriminated contingency: the outcome for the response will be delivered NO MATTER WHAT the environmental conditions are

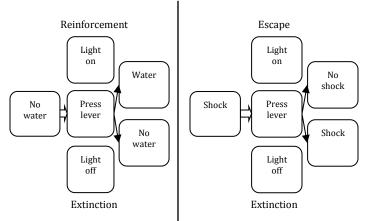
-Discriminated contingency: the outcome for a response will ONLY be delivered when specific environmental conditions are present.

## Similarities:

-Both include the reinforcement of behavior in the presence of the S<sup>D</sup> and an extinction procedure in the presence of the  $S^{\Delta}$ .

## **Differences:**

-In discrimination training w/reinforcement, a reinforcer is presented in the presence of the S<sup>D</sup> and withheld in the presence of the  $S^{\Delta}$ . -In discrimination training w/escape, an aversive condition is removed in the presence of the S<sup>D</sup> and remains in place in the presence of the  $S^{\Delta}$ .

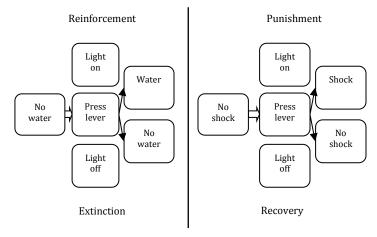


## Similarities:

-Both include the presentation of a stimulus, event, or condition in the presence of the S<sup>D</sup> and that stimulus, event, or condition is withheld in the presence of the  $S^{\Delta}$ .

## **Differences:**

-In discrimination training w/reinforcement, a reinforcer is presented in the presence of the S<sup>D</sup> and withheld in the presence of the  $S^{\Delta}$ . -In discrimination training w/punishment, an aversive condition is presented in the presence of the S<sup>D</sup> and is withheld in the presence of the S<sup> $\Delta$ </sup>.



<u>Ch 12</u>	<u>Ch 13</u>
A discriminated vs. an undiscriminated contingency.	Stimulus generalization gradients: The pigeon and the colored light stimuli
What is the common confusion?	Describe the procedure and the rationale behind using it.
<u>Ch 12</u>	<u>Ch 13</u>
A discriminated vs. an undiscriminated contingency.	Stimulus generalization gradients: The pigeon and the colored light stimuli
Provide 2 everyday examples, one of each.	Describe the testing procedure and the rationale behind using it.
<u>Ch 12</u>	<u>Ch 13</u>
<u>Ch 12</u> Operandum test	<u>Ch 13</u> Stimulus generalization gradients: The pigeon and the colored light stimuli
	Stimulus generalization gradients: The pigeon and
Operandum test	Stimulus generalization gradients: The pigeon and the colored light stimuli Graph some hypothetical results illustrating
Operandum test	Stimulus generalization gradients: The pigeon and the colored light stimuli Graph some hypothetical results illustrating
Operandum test What is the purpose of this test?	Stimulus generalization gradients: The pigeon and the colored light stimuli Graph some hypothetical results illustrating complete generalization between the light colors.
Operandum test	Stimulus generalization gradients: The pigeon and the colored light stimuli Graph some hypothetical results illustrating
Operandum test What is the purpose of this test?	Stimulus generalization gradients: The pigeon and the colored light stimuli Graph some hypothetical results illustrating complete generalization between the light colors. <u>Ch 13</u> Stimulus generalization gradients: The pigeon and
Operandum test What is the purpose of this test? <u>Ch 12</u> Operandum test Provide an example from everyday life that includes a discriminated contingency in which	Stimulus generalization gradients: The pigeon and the colored light stimuli Graph some hypothetical results illustrating complete generalization between the light colors. $\underline{Ch13}$ Stimulus generalization gradients: The pigeon and the colored light stimuli Graph some hypothetical results illustrating
Operandum test What is the purpose of this test? <u>Ch 12</u> Operandum test Provide an example from everyday life that	Stimulus generalization gradients: The pigeon and the colored light stimuli Graph some hypothetical results illustrating complete generalization between the light colors. $\underline{Ch13}$ Stimulus generalization gradients: The pigeon and the colored light stimuli
Operandum test What is the purpose of this test? <u>Ch 12</u> Operandum test Provide an example from everyday life that includes a discriminated contingency in which	Stimulus generalization gradients: The pigeon and the colored light stimuli Graph some hypothetical results illustrating complete generalization between the light colors. $\underline{Ch13}$ Stimulus generalization gradients: The pigeon and the colored light stimuli Graph some hypothetical results illustrating
Operandum test What is the purpose of this test? <u>Ch 12</u> Operandum test Provide an example from everyday life that includes a discriminated contingency in which	Stimulus generalization gradients: The pigeon and the colored light stimuli Graph some hypothetical results illustrating complete generalization between the light colors. <u>Ch 13</u> Stimulus generalization gradients: The pigeon and the colored light stimuli Graph some hypothetical results illustrating

## <u>Ch 13</u>

They intermittently reinforced the pigeon's keypecks in the presence of a yellow-green light.

Intermittent reinforcement was used to increase the behavior's resistance to extinction (so the behavior would persist during testing) Confusion:

Many people believe that all contingencies are discriminated.

However, the environmental conditions surrounding the performance of a response DO NOT always affect the availability of the outcome for that response.

**Undiscriminated:** No piece of candy→open wrapper→piece of candy

## <u>Ch 13</u>

They presented novel, different colored lights and measured key-pecks.

Extinction was used for all key pecks. This was done in order to eliminate any effects that would have occurred from discrimination training.

**Complete Generalization** 

350

300

250 200

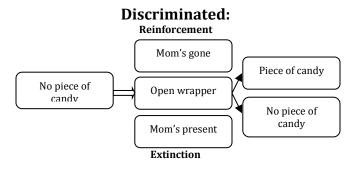
150

100

50 0

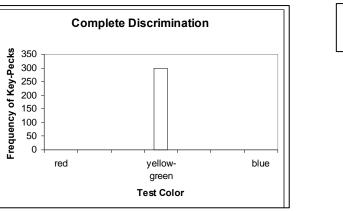
red

Frequency of Key-Pecks



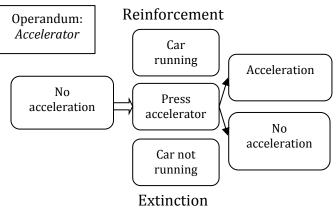
## Purpose:

To help distinguish between the environmental conditions that affect the availability of reinforcement or punishment **(SD)** and the part of the environment that the organism manipulates **(operandum)**.



yellow-

green Test Color blue



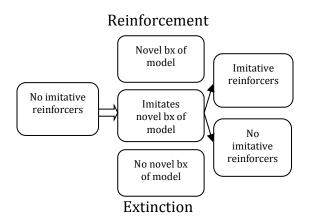
<u>Ch 13</u>	<u>Ch 14</u>
Stimulus generalization gradients: The pigeon and the colored light stimuli Graph some typical, intermediate results.	Theory of generalized imitation. Explain the theory.
<u>Ch 13</u> Stimulus generalization gradients: The pigeon and the colored light stimuli Be able to speak fluently about the graph of the typical, intermediate results.	<u>Ch 14</u> Theory of generalized imitation. Draw a generic diagram illustrating generalized imitation.
	<u>Ch 14</u> Theory of generalized imitation. Explain the need for the theory.

## Theory of generalized imitation:

Generalized imitative responses occur behavior they automatically produce imitative reinforcers.

Imitative reinforcers are the stimuli arising from the match between the behavior of the imitator and behavior of the model.

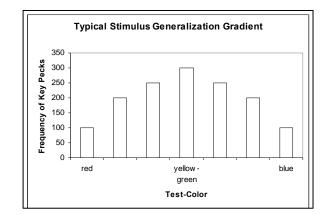
These generalized imitative responses will maintain only of other imitative responses have occurred and have been reinforced previously.



We need a theory that explains why an imitator performs a response when there seems to be no reinforcement for that response.

According to the behavior analytic model, behavior will only maintain if it is immediately reinforced.

Therefore, this theory provides a way to explain why we observe generalized imitation.



-As the color of the light became increasingly different from the yellow-green light (the training stimulus), the pigeon pecked the key less.
-There was less generalization as the test stimulus became less similar to the training stimulus.

-The pigeon could more easily **discriminate** between colors that were **more different** than the training stimulus.

<u>-</u>The pigeon was more likely to **generalize** between colors that were **more similar** to the training stimulus.

<u>Ch 15</u>	<u>Ch 15</u>
Ch 15         Extinction of cued avoidance.         Diagram extinction of cued avoidance.         Ch 15         Extinction of cued avoidance.	Ch 15AvoidancePunishmentInvolves
What's the common confusion?	Illustrate the differences with 2 examples from the Skinner box.
<u>Ch 15</u>	<u>Ch 15</u>
S <sup>D</sup> vs. warning stimulus.	Avoidance of an aversive condition vs. punishment.
Compare & contrast.	What's the common confusion?
<u>Ch 15</u>	<u>Ch 15</u>
S <sup>D</sup> vs. warning stimulus.	Avoidance of an aversive condition vs. punishment.
Diagram discriminated cued avoidance.	In what special case do these 2 contingencies seem to be essentially the same?

## Complete the table

	Avoidance	Punishment
Involves		
presentation of an	YES	YES
aversive stimulus?		
Presentation is	NO	YES
contingent?	NO	IES
Prevention is	YES	NO
contingent?	IES	NO
Change in the		
frequency of the	INCREASE	DECREASE
response		

 Punishment

 No shock

 Lever press

Shock

Avoidance of an aversive condition



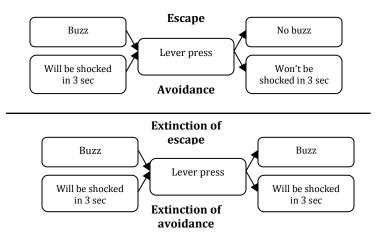
Some people mislabel a punishment contingency as an avoidance contingency, and some people mislabel an avoidance contingency as a punishment contingency.

In both of these instances, they are analyzing nonbehaviors (e.g., non-lever presses are reinforced by avoiding the shock).

These seem to be the same when there are **only** 2 response options available that are mutually exclusive.

For example, in a forced choice procedure, where the rat must jump from 1 of 2 platforms, and one of those receiving platforms is shocked.

We can't distinguish between jumping to the shock platform (punishment) and jumping to the nonshock platform (avoidance).



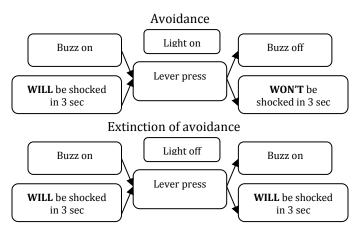
## Confusion:

People think extinction of cued avoidance involves not presenting the warning stimulus.

However, in extinction, the response must occur, but no longer produce the outcome.

**Similarities:** Both are present before the response **Differences:**-Presence of an S<sup>D</sup> means that an outcome may occur ONLY IF the response occurs. -A warning stimulus signals when an aversive outcome WILL occur.

-Presence of a warning stimulus means that if the response DOESN'T occur, the outcome will occur. -The warning stimulus will be removed if the response occurs, whereas the S<sup>D</sup> will remain in place regardless of whether a response occurs.



<u>Ch 15</u>			<u>Ch 15</u>
Avoidance of the loss vs. penalty.			
Involves removal of	Avoidance	Penalty	Avoidance and the Two-Factor Theory of Avoidance.
a reinforcer Removal of S <sup>r</sup> is			Discuss the importance of this theory with respect
contingent? Keeping of S <sup>r</sup> is			to explaining the avoidance contingency.
contingent? Change in the			
frequency of the response			
<u>Ch 15</u>			<u>Ch 15</u>
Avoidance of the loss vs. penalty.		-	Avoidance and the Two-Factor Theory of Avoidance.
Illustrate the differences with 2 examples from the Skinner box.		mples from the	Why do we even include shock in the avoidance contingency?
	<u>Ch 15</u>		<u>Ch 15</u>
Avoidance and the Two-Factor Theory of Avoidance.		Theory of	Avoidance and the Two-Factor Theory of Avoidance.
Provide a diagram of cued avoidance including the component escape and avoidance contingencies as well as a diagram of the pairing between the original aversive outcome and the warning stimulus.		ontingencies as between the	Provide a diagram of non-cued avoidance including the component escape and avoidance contingencies as well as a diagram of the pairing between the original aversive outcome and the warning stimulus.
	<u>Ch 15</u>		<u>Ch 15</u>
Avoidance and th Av	e Two-Factor oidance.	Theory of	Molar vs. molecular theory.
Explain why we say that the only role of an avoidance contingency is its function as a pairing procedure.		-	Define and give an example of the molar law of effect.

# <u>Ch 15</u>

This theory is important because it seems that we get something from nothing (pressing the lever when there is no shock and getting no shock does not seem to fit with our model).

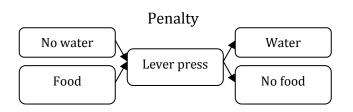
Avoiding the shock doesn't have much to do with affecting the frequency of the response, but it is actually escape from the learned aversive warning stimulus that reinforces the response.

## <u>Ch 15</u>

The shock is necessary in altering the value of the neutral stimulus so that it becomes a learned aversive stimulus and can therefore act as a warning stimulus.

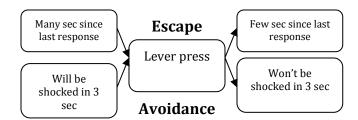
<u>Ch 15</u> Avoidance of the loss vs. penalty.

involutilee of the 1055 vs. penalty.		
	Avoidance	Penalty
Involves removal of a reinforcer	YES	YES
Removal of S <sup>r</sup> is contingent?	NO	YES
Keeping of S <sup>r</sup> is contingent?	YES	NO
Change in the frequency of the response	INCREASE	DECREASE



Avoidance of the loss



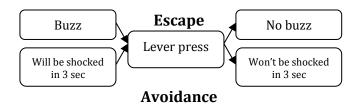


## **Pairing:**

Many seconds since last response  $\rightarrow$  shock Few seconds since last response  $\rightarrow$  no shock

Molar law of effect: It is the *overall increase* in reinforcement or the *overall reduction* in aversive stimulation that controls the occurrence of a response.

For example, in non-cued avoidance it is the overall reduction in the frequency of shocks per hour that reinforces the rat's avoidance response.



## **Pairing:** Buzz $\rightarrow$ shock No buzz $\rightarrow$ no shock

The warning stimulus becomes a learned aversive stimulus through pairing w/the original aversive stimulus.

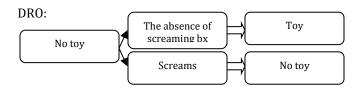
Therefore, the avoidance response is really reinforced by the contingent termination of the warning stimulus, not by the avoidance of the original aversive stimulus.

<u>Ch 15</u>	<u>Ch 16</u>
Molar vs. molecular theory.	Punishment by the prevention vs. DRO.
Define and give an example of the molecular law of effect.	Why is it better to use the label of punishment by the prevention than DRO?
<u>Ch 15</u>	<u>Ch 16</u>
Molar vs. molecular theory.	Punishment by the prevention vs. DRO.
Compare & contrast.	Provide an example of DRO and an opposite interpretation of that same example as punishment by the prevention.
	<u>Ch 16</u>
	Punishment by the prevention vs. penalty.
	Compare & contrast.
	<u>Ch 16</u>
	Punishment by the prevention vs. penalty.
	Provide 2 examples from the Skinner box illustrating each of these 2 contingencies.

DRO is essentially reinforcing non-behavior.

The category of "other behavior" is so broad that it is essentially the "absence of the target behavior" that is being reinforced.

Punishment by the prevention is better because it focuses on the occurrence of a *specific* behavior.



Punishment by the prevention:



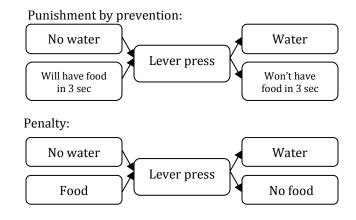
## Similarities:

-Both result in a decrease in behavior. -In both, the outcome is that the organism does not have the reinforcer in the after condition.

## **Differences:**

-In *punishment by prevention*, the organism never had the reinforcer in the first place.

-Prevention is response contingent -In *penalty* the organism did have the reinforcer. -Removal is reponse contingent.



Molecular law of effect:

The *immediate likelihood* of a reinforcer or an aversive condition controls the occurrence of that response.

For example, it is the *immediate presentation* of shock that reduces the frequency of the rat's lever press and no the overall increase in shocks per hour.

**Similarities:** Both propose to explain behavior in terms of its consequences.

## **Differences:**

The molar law of effect takes into account the overall amount or rate that reinforcers and aversive outcomes occur after behavior.
The molecular law of effect analyzes the consequences as they occur *immediately* after a specific response.

<u>Ch 17 &amp; 18</u>	<u>Ch 17 &amp; 18</u>
Ratio schedules & interval schedules of reinforcement and punishment. Compare & contrast.	Limited hold vs. deadline. Provide an example in daily life of each.
<u>Ch 17 &amp; 18</u>	<u>Ch 17 &amp; 18</u>
Variable ratio schedules in the Skinner box vs. the scheduling used by slot machines in Las Vegas.	Why does intermittent reinforcement increase resistance to extinction (as compared to
Compare & contrast.	continuous reinforcement)?
<u>Ch 17 &amp; 18</u>	
Fixed-interval (FI) vs. fixed-time schedules.	
Compare & contrast.	
<u>Ch 17 &amp; 18</u>	
Limited hold vs. deadline.	
Compare & contrast.	

Deadline: Due date for a term paper.

-Reinforcement will be delivered for turning in your paper anytime between now and the due date.

Limited hold: Running through the park between 6 and 7am because you know that another cute boy or girl regularly runs through the park at that time. -Reinforcement will only be delivered between those 2 specified times.

There is greater stimulus generalization between intermittent reinforcement and extinction &

greater discrimination between continuous reinforcement and extinction.

**Similarities:** They are both manners in which intermittent reinforcement or punishment may be scheduled.

#### **Differences:**

-For ratio schedules, the outcome is delivered after a specific number of responses have occurred.
-For interval schedules, the crucial measure is amount of time that has passed since the last response that was reinforced or punished.

VEGAS	SKINNER BOX
Many other reinforcers interspersed (lights, music, smells, etc.)	N/A
Amount of reinforcer varies (might win \$5, then \$100)	Only one value of the reinforcer (e.g., 1 drop of water)
Lower ratios (you <b>won't</b> gamble on a VR 100 ratio)	Higher ratios (Rudolph <b>will</b> press the lever on a VR 100 ratio)
Emotional reinforcers (the "close but no cigar" phenomenon)	N/A – no such thing as <i>close</i> to a drop of water

**Similarities:** For both, delivery of the outcome is dependent upon the passage of time.

#### **Differences:**

-Delivery of an outcome on an FI schedule is dependent upon the first response after a passage of time since the last response was reinforced or punished.

-Delivery of an outcome on a fixed-time schedule is dependent upon the passage of time since the last deliery of a reinforcer or aversive condition regardless of whether a response has occurred.

**Similarities:** Both specify a time in which a response will produce a reinforcer.

## **Differences:**

-Deadline specifies the time *before which* a response will be reinforced.

-Between now & a specified time. -Limisted hold specifies a time *during which* a response will be reinforced.

-Between 2 times in the future.

<u>Ch 21</u>
If you were given a behavioral phenomenon and provided with a respondent explanation for it along with the confounded operant interpretation, what procedure would you use to determine which process was actually supporting the behavior?
<u>Ch 21</u> Operant extinction vs. respondent extinction. Compare & contrast.
<u>Ch 21</u>
Operant extinction vs. respondent extinction. Provide a Skinner box example of operant extinction and another example of respondent extinction.
<u>Ch 21</u>
Operant pairing procedure with the value-altering principle vs. respondent conditioning. Compare & contrast.

Operant extinction. By doing so, you would eliminate any consequences that result from the occurrence of the behavior.

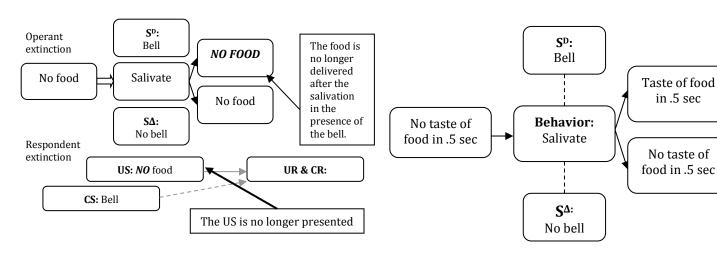
If respondent conditioning were really an adequate explanation, the bx would still occur since respondent bx will occur regardless of any change in stimulus conditions following the response.

If the bx extinguishes, it would be demonstrated that operant conditioning was a more adequate explanation.

**Similarities:** For both, the response frequency decreases.

## **Differences:**

-For operant extinction, the response does occur and the consequence is no longer delivered. -For respondent extinction, the US is no longer paired with the CS and the occurrence of the response is irrelevant.



## Similarities:

-Both involve pairing stimuli.

-Both result in one stimulus acquiring relatively the same function of the other stimulus.

## **Differences:**

Operant pairing changes a neutral stimulus into a learned reinforcer or aversive condition.
Respondent pairing changes a neutral stimulus into a conditioned eliciting stimulus, or CS.

# Pupil contraction in presence of bright light:

*Respondent interpretation:* US: Bright light  $\rightarrow$  UR: pupil contraction

## Operant interpretation:

Bright light  $\rightarrow$  pupil contracts  $\rightarrow$  less bright light

**Similarities:** Both involve the same stimuli and response (e.g., sound of bell, and salivation)

# Differences:

Operant conditioning is when the future occurrence of bx is dependent upon the consequences of that behavior.
Respondent conditioning is when the future occurrence of a bx is dependent upon the presence of a stimulus before the bx may occur and is NOT due to the consequences of that bx.

UR & CR:

Salivate

US:

Food

CS:

Sound of Bell

<u>Ch 22</u>	<u>Ch 24</u>
Direct-acting vs. indirect-acting contingencies.	The cause of poor self-management.
What's the common confusion?	What is the myth? Why is it wrong? What is the REAL cause of poor self-management?
<u>Ch 22</u>	<u>Ch 24</u>
Direct-acting vs. indirect-acting contingencies.	The cause of poor self-management.
What problems can arise from a failure to discriminate between the 2 types of contingencies?	Provide an everyday example of a rule with a delayed outcome that fails to control behavior.
	Then, explain how increasing the size or probability of the outcome can increase the effectiveness of the rule.
<u>Ch 22</u>	
Direct-acting vs. indirect-acting contingencies.	
Compare & contrast.	
<u>Ch 22</u>	<u>Ch 26</u>
Direct-acting vs. indirect-acting contingencies.	Effective moral & legal control vs. building a world frre of aversive control.
Provide a pair of everyday contingencies.	What is the POB viewpoint on this debate?
	what is the rob viewpoint on this debate:

## Myth of poor self-management: Poor self-

management occurs because immediate outcomes control our behavior better than delayed outcomes do.

However, the delay isn't crucial.

**Real cause of poor self-management:** Poor selfmanagement occurs because of outcomes that are too small or too improbable.

#### **Buckling a seatbelt**

You don't normally buckle a seatbelt because the probability of a ticket is pretty low.

However, on Memorial Day, when there are more police out, the probability of getting a ticket is much higher, so you wear your seatbelt.

## <u>Ch 22</u>

## Confusion:

People often fail to discriminate between the two types of contingencies and falsely treat indirectacting contingencies as if they were direct-acting.

#### <u>Ch 22</u>

This failure to discriminate leads to people to believe that Rudolph's behavior can be controlled by the same contingencies that you or I can!

This can lead to faulty experiments or ineffective treatments.

**Similarities:** Both function similarly in that they both can control behavior.

#### **Differences:**

-Direct-acting contingencies: outcome does reinforce or punish the bx. This is what controls bx. -Indirect-acting contingencies: the outcome does NOT reinforce or punish the bx. It is the statement of a rule that controls bx.

-Direct-acting: control bx of all organisms. -Indirect-acting: control bx of verbal organisms.

-In the case of moral & legal control, we are usually dealing with indirect-acting contingencies. If we are going to increase behavior, we need to use a deadline.

-When we add deadlines to the picture, we are dealing with analogs to avoidance. Therefore, it is the avoidance of an aversive condition that is controlling our behavior.

-Additionally, if we are talking about reducing behavior, we are talking about analogs to penalty or punishment and these also use threats of aversive consequences to control behavior.

#### **Direct-acting reinforcement contingency**



## Indirect-acting reinforcement contingency



<u>Ch 27</u>	<u>Ch 27</u>
The 2 myths of performance maintenance.	Transfer of training vs. stimulus generalization.
What are they?	Provide an example of transfer that exposes the error of the <i>transfer of training myth</i> .
<u>Ch 27</u>	
The 2 myths of performance maintenance.	
Provide an example of each.	
<u>Ch 27</u>	
Transfer of training vs. stimulus generalization.	
What is the myth concerning these 2 phenomenon?	
<u>Ch 27</u>	
Transfer of training vs. stimulus generalization.	
Compare & contrast.	

Transfer of training of street crossing skills.

The training setting is a cardboard model with plastic dolls. The test setting will be a REAL street with REAL people.

Participants can discriminate between the 2 settings, yet transfer still occurs, *due to rules*.

So, there are 2 methods by which transfer of training occurs: stimulus generalization and rules.

*Myth of perpetual-behavior maintenance:* states that if you modify a behavior, then it will maintain itself without having to deliver anymore consequences for that behavior.

*Myth of intermittent reinforcement:* states that an intermittent schedule of reinforcement can be thinned to extremely high levels until the behavior is super-resistant to extinction.

## **Examples:**

*Myth of perpetual-behavior maintenance:* once you get down to your goal weight, you won't have to intervene anymore & you'll stay thin.

-Just because you got your weight down, doesn't mean it will stay there forever w/no intervention in place.

*Myth of intermittent reinforcement:* Rudolph: start with an FR5 schedule of reinforcement, then thin it to FR10, FR20, FR 50, FR 100, FR1000, etc.

-This will ccertainly lead to extinction.

## Transfer of training myth:

You can explain all occurrences of transfer of training by terms of stimulus generalization.

**Similarities:** Both deal with responding in one setting that was acquired in another setting. **Differences:** 

-Transfer of training encompasses all instances where responses learned in one setting occurs in another setting.

-Stimulus generalization is a special case of transfer of training (a sub-category). It is one mechanism for explaining transfer of training. Does not explain why transfer of training occurs when settings share no physical similarities.